REDRING

Thermostatic

POWERSTREAM PRO HANDBOOK

tankless electric water heaters

MODEL
RP12PT
240V

For Service & Installation contact:

BBT NORTH AMERICA
Bosch Group

340 Mad River Park, Waitsfield, VT 05673 - 800-798-8161
www.boschpro.com

IMPORTANT : This booklet should be given to the customer after installation and demonstration.

Important Safety Instructions

When using this electrical equipment, basic safety precautions should always be followed, including the following:

1. **Read and follow all instructions.**
2. This appliance must be grounded.
3. Disconnect this product from the electrical supply before cleaning, servicing or removing the cover.
4. lo reduce the risk of injury, close supervision is necessary when the product is used near children or elderly persons.
5. Warning: Do not install the heater in a location where it may be subject to freezing.
6. Warning: Do not install a check valve or any other types of back flow preventer within six feet of the cold water inlet.
7. The electrical insulation must conform to current National Electrical Codes.
8. Warning: Do not switch the heater on if you suspect that it may be frozen. Wait until you are sure that it has completely thawed cut.
9. The Powerstream Pro is designed to heat potable cold water for domestic purposes. Contact Bosch Water Heating before specifying or installing the appliance in any other application.
10. **Additional Canadian Safety Instructions**
    a) A green terminal (or wire connector marked "G", "GR", "GROUND", or "GROUNDING") is provided within the control box. To reduce the risk of electric shock, connect this terminal or connector to the grounding terminal of the electric service of supply panel with a continuous copper wire in accordance with the Canadian Electrical Code, Part 1.
    b) This product shall be protected by a Class A ground fault circuit interrupter.

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Save these instructions

Keep this guide in a safe place once your Powerstream Pro unit has been installed. You may need to refer to it for general instructions or future maintenance.

Using the Powerstream Pro

Warning

Do not use the unit if you think it may be frozen, as this could result in serious damage to the unit. Wait until you are sure-it has completely thawed out before you switch it on.

Sink

- Check that the power is switched on at the circuit breaker panel.
- Turn on the hot tap FULLY If you do not turn the tap full on, you will find that the temperature of the water may vary The hot water can be adjusted by altering the temperature dial and correctly setting the flow rate. Refer to appendix on page 10 - correct flow vs. temperature,
- If the unit has been used recently, run the water through for a few seconds to let the temperature settle down. You may initially get a short burst of very hot water from the unit,
- It a second tap connected to the unit is also turned on, the hot water will be shared between the two, therefore the flow and/or the temperature of the water will decrease.

Installing the Powerstream Pro

Warning

Do not install the Powerstream Pro in a room: where there is a chance of freezing.

IMPORTANT - Read entire instructions

Check the pressure of the main water supply. To operate correctly the unit needs the following running pressures:-

Sink

Min: 20psi (1.4 bar)
Max: 150psi (10.3 bar)

Securing the unit to the wall

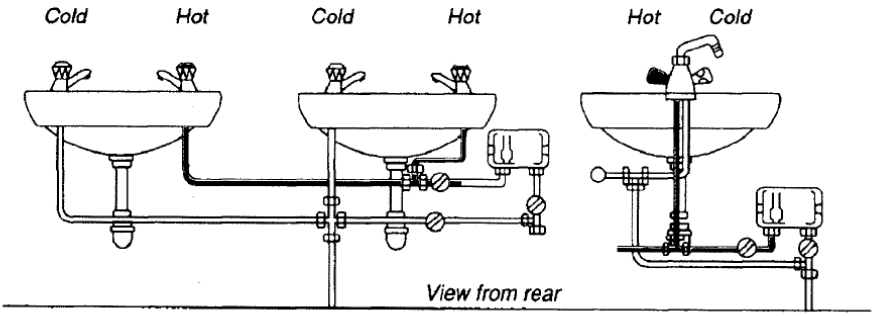
Deciding the position

- If being used in a public place, position the unit out of reach to discourage vandalism.
- Mount the unit onto a flat section of wall, well away from any potential splashes of water or spray.
- Position the unit lengthways (diagram 1.) Remember to keep the length of hot water pipe to a minimum in order to save energy.
- If the unit is to supply a sink, you can It it either above or below the sink.

Warning

Unit must be mounted as shown 'Lengthways' with plumbing connection pointing down. Under no circumstances should the unit be mounted differently.

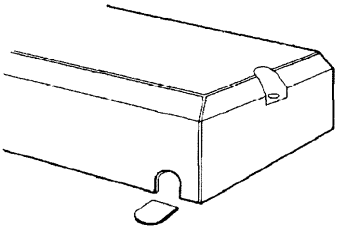
Diagram 1: Examples of installations



Deciding the wiring route

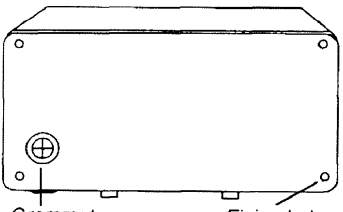
- You have a choice of whether to feed the electric cable through the side or through the back of the unit,
- If it is gong to be through the side of the unit, cut out the plastic lug to expose the rubber sleeve (diagram 2.)

Diagram 2: Side of unit



- If it is going through the back of the unit, cut through the grommet on the backplate with a sharp knife. Make sure that you do not remove the grommet from the backplate (diagram 3.) Feed the cable through the grommet before you mount the unit to the wall. If you are using an approved cable fitting, remove the grommet.

Diagram 3: Back of unit



Mounting on the wall

- Undo the retaining screws on the cover and take the cover of the unit. Hold the backdate in position against the wall while you mark the four mounting holes.
- Drill the holes and secure the unit to the wall using the four no. 8 wood screws supplied

WARNING - IMPORTANT
Do not install a non-return check valve within 6 feet of the inlet.

Plumbing in the unit

Fitting the pipes

- The unit should be connected directly to the main cold water supply and not to pre-heated water. The unit should be installed with service valves on both the inlet and outlet.
- We recommend that you use ½" copper or high pressure flex connections.
- Use Teflon tape for sealing pipe threads. Do NOT use pipe dope.
- Remember to keep the hot water pipe runs as short as possible. In some cases it may be worth fitting a second unit to serve an additional fixture.
- If the unit is to supply more than one sink, a similarly flow restricted aerator should be used at each tap. If not, the highest flowing outlet will take all the water under dual usage.
- After the unit has been plumbed in, and before you wire it, flush it with water to remove any debris or loose particles. Failure to do so may make the unit inoperable.

Connecting the unit to the pipes

- The inlet and outlet are clearly marked on the unit. They each have a ½" NPT connector.
- Install a ball valve in the cold water line. This valve can be used to turn off the water supply to the unit if it needs servicing, or to reduce the water flow if it is too high.
- If the unit is to supply a sink, we recommend that you use aerators, which you can get from your local distributor/dealer.
- ***As a condition of installing this product in the Commonwealth of Massachusetts a pressure relief valve must be installed on the cold water side by a licensed plumber. MGL 42 Section 19.***

WARNING
The unit must be installed by a qualified electrician.
The unit must be grounded.

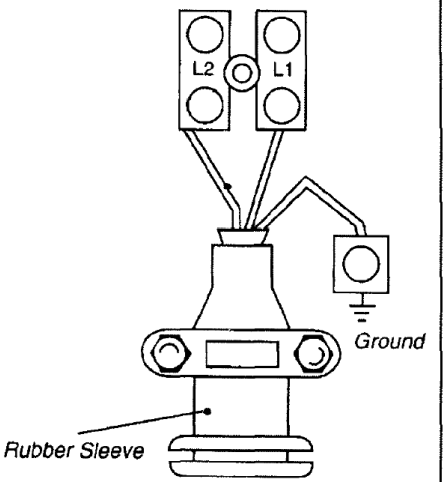
Connecting the unit to power.

Making the electrical connections

Model	Rated Voltage (V)	Rated Current (A)	Recommended Wire Size (AWG)
RP12PT	240	50	6

- Strip back the insulation on the power wires about $^{3}/_{8}$". Any insulation on the ground should be stripped back about $^{3}/_{4}$"
- Feed the cable through the side or rear entry grommets, as appropriate.
- Connect the cables to the terminal block and ground stud. (diagram 4.)

Diagram 4: Cable termination



When the Powerstream Pro is not within sight of the electrical circuit breakers, a circuit breaker lockout or additional local means of disconnection for ail non grounded conductors must be provided that is within sight of the appliance. (REF NEC 422.31)

- Make sure that all the terminal block screws are tightened securely. Loose connections can cause wires to neat up.
- Make sure that the ground wire is wrapped around its terminal stud and into the saddle washer. The nut should be tightened securely.
- Attach the front cover and tighten the retaining screws.

Spare Parts

93793749	12 kW Heat Exchanger (Thermostatic)
93793701	Backplate
93793703	Terminal Block
93793812	Front Cover (Thermostatic)
93793765	Thermal Cut-cut
93793751	Wiring Assembly (Thermostatic)
937937C9	Cable Clamps & Rubber Boot
93793752	Cover Retaining Screws
93793753	12 kW Printed Circuit Board (Thermostatic)
93793754	Nameplate
93793755	Brass Inlet Assembly

For further information ask your local dealer:

FOR SERVICE AND INSTALLATION QUESTIONS CALL TOLL FREE:

800-798-8161

www.boschpro.com

Bosch Water Heating
340 Mad River Park,
Waitsfield. VT 05673.

Starting up the Powerstream Pro

Checking for leaks

- Lot the water run through the unit for a few seconds. Check that no pipe joints leak.

Adjusting the flow

Turn the service valves on, then -

- Turn on the hot tap fully at the sink
- Adjust the outlet service valve till the water cones out of the tap at the recommended flow rate for the required temperature.
  Refer to Appendix on page 10 : Correct flow vs. Temperature.
  If the required temperature is different from the factory setting 113°F (45°C), turn the Adjustment Spindle (Diagram 5) until the outlet temperature is correct.
- Check that the unit works correctly when the sink tap is closed and then opened again; if not adjust the service valve slightly.
- The outlet shut off valve can be used to regulate temperature or flow of water from the unit.

When using the hot water open the tap fully so that the water temperature is always the same. If hotter water is desired adjust the temperature dial and flow rate as recommended in the Appendix on page 10.

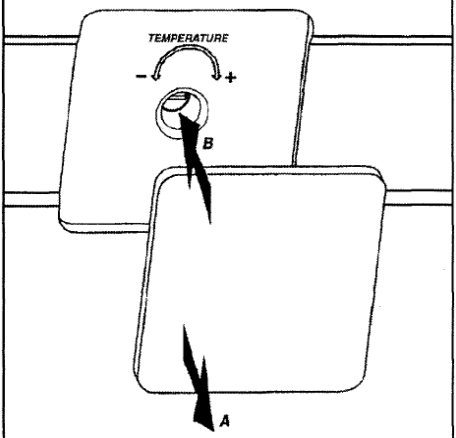
Note:

If the unit is servicing a single lever faucet you may need to restrict the cold water supply to the faucet to balance water pressure and improve performance.

IMPORTANT

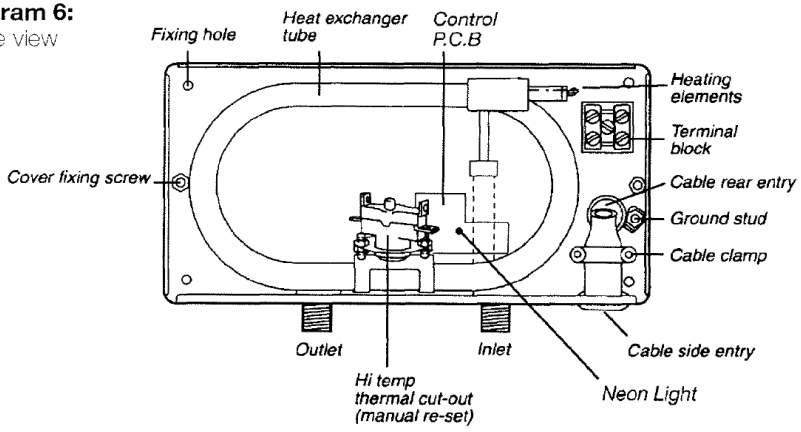
Before leaving the site, the installer should demonstrate the unit to the user and give him/her this guide.

Diagram 5: Temperature adjustment spindle



Remove nameplate in direction of Arrow A.
Adjust the temperature setting using a screwdriver on the spindle as shown by arrow B.
Replace the Nameplate.

Diagram 6: Inside view



How the Powerstream Pro works

Water comes in through the inlet tube.

The flow switch senses water has passed through the unit. If it detects more than the pre-set level, the units heating the elements switch on. This is shown by the neon light glowing.

The water is heated instantly as it passes through the copper heat exchanger tube.

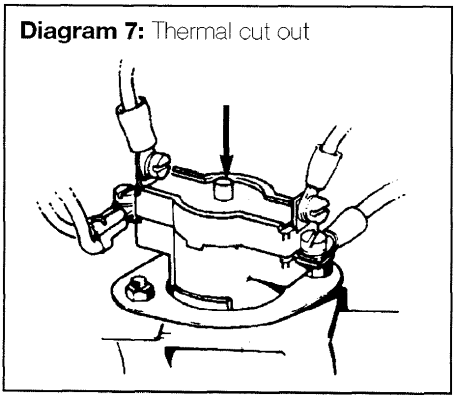
The unit is Thermostatic i.e. it will switch the elements on and off in order to maintain a constant outlet temperature.

The temperature of the water conning out of the unit depends on:-

- The voltage of the electrical supply,
- The temperature of the incoming water.
- The setting of the temperature dial.

A badly set flow rate can also have a negative effect on the temperature.

Diagram 7: Thermal cut out



Depending on the region of the country, the temperature of the water supply can vary from 40°F in winter to about 70°F in the summer, with an average of about 50°F. Extreme weather conditions can cause the inlet temperature to go outside these boundaries, making it necessary to adjust the Temperature Adjustment Spindle and / or the inlet water flow.

The unit has one double pole thermal cut out which is mounted on the heat exchanger tube.

When tripped the cut out needs to be reset manually inside the unit.

The cut-out will trip only in exceptional circumstances (Diagram 7.) Call your service person or Bosch Water Heating if this happens frequently.

WARNING -
Always switch off the electrical supply to the unit before you remove the cover.

FOR THE INSTALLER

SYMPTOM	CAUSE	WHAT TO DO
Cold water only -neon light off.	Electricity not on	Check electrical supply.
	The water supply is connected to the OUTLET of the unit.	Reconnect the water supply to the INLET (marked in blue)
	The high temperature thermal cut out has tripped	Reset it by opening the unit and pushing the button on the cutout (diagram 7). **Before you do this you must find the cause of the problem.**
	The flow switch is not working.	Turn off the power and observe if the flow switch activates when the water is turned on. If not contact BBT 800-798-8161 www.boschpro.com
Water too cold -neon light on.	Water flow too high for unit to control	Adjust water flow to recommended flow rate.
	One element is not working.	Switch off the electricity and check the resistance of the elements.
	The power supply voltage has dropped.	Check the supply voltage to the heater.
	Temperature is turned too low.	Ensure that the temperature dial is in the correct position for the flow of water.
Water flow too low, or temperature too high.	There are restrictions in the plumbing.	Check the plumbing. Only use Teflon tape for sealing pipe joints.

FOR THE USER

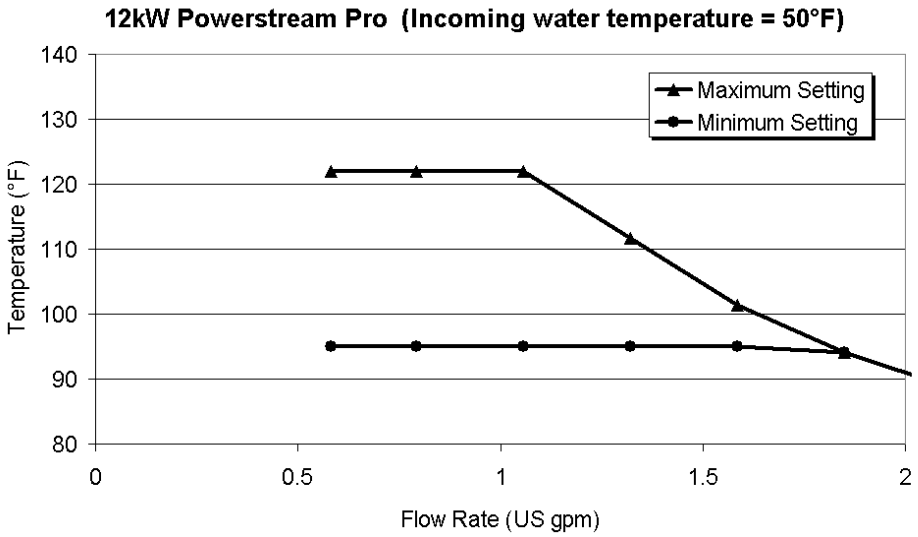
SYMPTOM	CAUSE	WHAT TO DO
Little or no water flows.	The water supply is turned off.	Turn on the main supply fully at the stop valve.
Cold water only -neon light off.	The flow is not high enough to activate.	Open the inlet service valve fully.
Cold water only -neon light on.	The water flow rate is too high.	Adjust the flow rate.
	The flow rate is correct	Adjust the temperature dial on the front of the cover.
	The inlet water temperature has dropped.	Adjust the flow rate.
Water flow rate too low, or temperature too high.	The hot tap is not fully open	Adjust the stop/ball valve so that water is at the right temperature with the tap fully open. Always turn the hot tap fully on.

If the problem persists

The person who initially installed the unit is probably the best one to contact for help. You can also call BBT at 800-798-8161 or visit www.protankless.com/tech. Please have this guide with you when you call.

Appendix Flow vs. Temperature Setting Guide:

The following graph Indicates the water temperatures the Thermostatic Powerstream Pro can achieve at different flow rates. The graph shows the maximum and minimum temperatures achievable for the 12 kW unit with the inlet water temperature set to an average ambient temperature.



NOTE:

1. As water temperature varies throughout the year adjustments to the Temperature Adjustment Spindle and/or the flow rate may be required.
2. We recommend the flow rate through the heater is set to the **Winter Maximum** temperature (see graph above). The heater will then maintain the set temperature in the summer months reducing the power automatically.

Powerstream Pro Limited 5 Year Warranty

APPLIED ENERGY PRODUCTS LTD. THROUGH ITS U.S DISTRIBUTION BOSCH WATER HEATING (here in after BBT) guarantees this water heate at the original installation location against defects in material and workmanship for the periods specified below.

Warranty Period

1. The Heat Exchange/Element - if the original heat exchanger leaks or the heating element fails within five (5) years from the date of the original installation of the water heater, because of a defect in material or workmanship, BBT will furnish to such Owner a replacement heater of the then prevailing comparable model.
2. Any Component Part Other than the Heat Exchanger/Element - If any other component part (other than the Heat Exchanger/Element) proves to be defective n material or workmanship within one (1) year from the date of original installations of the water heater, BBT will furnish the owner with a replacement of the defective part(s).
3. Verification of Date of Original Installation - When owner cannot verify or document the original date of installation, the warranty period begins on the date of manufacture marked on the tag affixed to the water heater.

Exclusions

1. **THIS LIMITED WARRANTY SHALL BE THE EXCLUSIVE WARRANTY MADE BY THE MANUFACTURER AND IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED (WHETHER WRITTEN OR ORAL), INCLUDING, BUT NOT LIMITED TO, WARRANTIES OR MERCHANT ABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**
2. Manufacturer shall not be liable for incidental, consequential, special or contingent damages or expenses arising, directly o[r] indirectly, from any defect in the water heater, or the use of the water heater.
3. Manufacturer shall not be liable for any water carnage arising, directly or indirectly, from any defect in the water heater component part(s) or from its use.
4. Manufacturer shall not be liable under this warranty if:

a) The water heater or any of its component parts has been subject to misuse, alteration, neglect, accident or freeze, or

b) The water heater has not been installed in accordance with the applicable local plumbing and/or building code(s) and/or regulation(s), or

c) The water neater has not been installed in accordance with the printed manufacturers instructions, or

d) The water heater is not continuously supplied with potable water

5. The OWNER and not the manufacturer or his representative shall be liable for and shall pay for all field charges for labour or other expenses incurred in the removal and/or repair of the product or any expense incurred by the owner in order to repair the product

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU THE SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHERS.

IMPORTANT - OWNER SHALL KEEP THIS CERTIFICATE

Note: A water heater should be installed in such a manner that if it should leak, the resulting flow of water will not cause damage to the area in which it is installed.

HOW THE OWNER CAN SECURE SERVICE OR MAKE A CLAIM.

1. Owner should contact the dealer who sold the water heater covered by the warranty or
2. Owner should submit the warranty claim directly to BBT at the address listed below, and they will arrange for the handling on the claim.
3. Whenever any inquiry or service request s made, be sure to include the water heater model number the date of manufacture, date of installation, Dealers name and the watts and voltage.
4. When returning the water heater or component part(s) they must be individually tagged and identified with the Returned Goods Authorisation # issued by BBT and shipped prepaid to BBT at the address below.

Bosch Water Heating
340 Mad River Park
Waitsfield, VT 05673
800-798-8161

BBT NORTH AMERICA
Bosch Group

www.boschpro.com

12.14.05

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